

tiple cotyledons are frequently seen ranged in two parallel lines, and these two lines are then separated one from the other by a very visible slit. This intercotyledonary slit is continued to the two opposite sides of the embryo, where it is easily recognised by its greater size, especially in some species (*Pinus pinaster*, Solan., *Pinus excelsa*, Wall., &c.). In certain cases these two opposite lateral slits gradually descend lower than those interposed between the lobes; the assertion of Jussieu therefore, although too much generalized, was based on facts. To recognise, in these doubtful cases, the arrangement of the cotyledonary lobes into two groups, the best plan is to make with a very sharp instrument, a transverse section towards the middle of the lowest cotyledons; the remaining basilar portion evidencing clearly, in almost every case, the arrangement here described.

To these facts furnished by the adult embryo, I add others taken from the germination and phyllotaxy. M. Lestiboudois has likewise recently been led, by observations on anatomical phyllotaxy, to admit that all the Coniferæ are dicotyledonous.

The species of *Ceratophyllum* have been and are still described as possessing four unequal cotyledons in pairs. But the observations of M. Schleiden, with which mine agree on nearly every point, have sufficiently shown that it is an error arising from the first whorl of plumular leaves, and which always appear binary, having been confounded with the two cotyledons.

After having removed from the category of polycotyledonous plants nearly all those admitted as such, there remains in my opinion but some species of *Persoonia* which should provisionally be referred to this group, upon the authority of Mr. R. Brown, and respecting which I am unable to form an opinion owing to want of material.—*Comptes Rendus*, xxvii. p. 226.

Preparation of Pineapple Fibres in Singapore for the Manufacture of Pina Cloth.

Some time ago we observed, in the neighbourhood of Batu Blyer, a number of Chinese labourers employed in cleaning the fibres of pineapple leaves for exportation to China. As we believe this to be a new and promising branch of industry in this settlement, where numerous islets are covered by the pineapple, it would be well to draw the attention of the Chinese and Bugis frequenting or inhabiting these islets to the subject. The process of extracting and bleaching the fibres is exceedingly simple. The first step is to remove the fleshy or succulent side of the leaf. A Chinese, astride on a narrow stool, extends on it, in front of him, a pineapple leaf, one end of which is kept firm by being placed beneath a small bundle of cloth on which he sits. He then with a kind of two-handled plane made of bamboo removes the succulent matter. Another man receives the leaves as they are planed, and with his thumb-nail loosens and gathers the fibres about the middle of the leaf, which enables him by one effort to detach the whole of them from the outer skin. The fibres are next steeped in water for some time, after

which they are washed in order to free them from the matter that still adheres and binds them together. They are now laid out to dry and bleach on rude frames of split bamboo. The process of steeping, washing, and exposing to the sun is repeated for some days until the fibres are considered to be properly bleached. Without further preparation they are sent into town for exportation to China.

Nearly all the islands near Singapore are more or less planted with pineapples, which at a rough estimate cover an extent of two thousand acres. The enormous quantity of leaves that are annually suffered to putrefy on the ground would supply fibre for a large manufactory of valuable pina cloth. The fibre should be cleaned on the spot. Fortunately the pineapple planters are not Malays, but industrious and thrifty Bugis, most of whom have families. These men could be readily induced to prepare the fibres. Let any merchant offer an adequate price, and a steady annual supply will soon be obtained.—*From the Journal of the Indian Archipelago and Eastern Asia*, No. 8, Aug. 1848.

Advantages accruing from the Study of Entomology.

To estimate in their true extent the important bearings of Entomology on our pecuniary interests, we must not confine our attention to the hundreds of thousands of pounds which we annually lose from the attacks of the hop-fly, the turnip-flea, the wire-worm, the weevil, and the host of insect-assailants of our home agricultural and horticultural produce, but we must extend our views to our colonies, and we shall there find that in Australia the potato crops (as we learn from Mr. Thwaites) are in some quarters wholly cut off by the potato-bug; that in the West Indies, in addition to the numerous and long-known insect-enemies of the sugar-cane, a new pest of the *Coccus*-tribe, sent us by Dr. Davy, has lately attacked it in Barbados, and the cocoa-nut trees in the same island have nearly fallen a sacrifice to a minute *Aleyrodes* referred to by Sir Robert Schomburgk; while in India the cotton crops are often seriously injured by insects of various tribes, whose history we have yet to learn; and in Ceylon, the Governor, Lord Torrington, states, in a letter addressed last year to Earl Grey, so serious have the attacks of the "Coffee-bug" (a species of *Coccus* or scale-insect, said to be allied to *C. Adonidum*) proved for the last few years to the coffee-plantations, that the produce of one estate, which had in former years been 2000 cwt. of coffee, fell suddenly to 700 cwt. wholly from the destruction caused by the bug; and a similar heavy loss as to other coffee-plantations is confirmed by Mr. Gardner, who speaks of the insect as not confining its ravages to these, but spreading to other trees and plants, as limes, guavas, myrtles, roses, &c., so that in the Ceylon Botanic Garden there is scarcely a tree not in some measure affected.

It appears highly probable, from facts collected by Mr. Gardner, and quoted in the 'Gardener's Chronicle' of Oct. 7, 1848, p. 667, that this coffee-bug was introduced into Ceylon with some Mocha coffee-plants brought from Bombay; and it is equally probable, as